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Assessment Of Hemodialysis Patient's Compliance To The Treatment And Follow Up In Baghdad Teaching Hospitals

تقييم التزام مرضى الإنفاذ الدموي للعلاج والمتابعة في مستشفيات بغداد

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الخلاصة

الهدف : تهدف الدراسة إلى تقييم التزام مرضى الأنفاذ الدموي للعلاج والمتابعة في مستشفيات بغداد التعليمية .

المنهجية: أجريت دراسة وصفية شملت خمسة مستشفيات تعليمية في مدينة بغداد للفترة من 2012/5/15الى 2013/8/15 لغرض تقييم مدى التزام مرضى الإنفاذ الدموي الدموية للعلاج والمتابعة و-تم اختيار عينة غير احتمالية (غرضيه) تكونت من (200) مريضاً (ذكور وإناث) الخاضعين لعملية الإنفاذ الدموي في مستشفيات الكاظمية ، اليرموك ، الكندي الكرامة و بغداد التعليمي وكانت أعمارهم تتراوح مابين بين 18-70 عاما والخاضعين بالإنفاذ الدموي بفترة لا تقل عن ستة أشهر و استعملت استمارة أستبانة لجمع المعلومات وتم تحديد مصداقيتها من خلال عرضها على مجموعة من الخبراء في مجال الاختصاص. أما ثباتها فقد تم تحديده من خلال دراسة استطلاعية أجريت في نفس المستشفيات المذكورة في أعلاه للفترة من 2012/8/15 إلى 10/20 /2012وتم تحليل بيانات الدراسة من خلال استعمال الإحصاء الوصفي والاستدلالي.ثم تم تطبيق (الاختبار -وإعادة الاختبار) لتحديد ثبات الاستمارة من خلال حساب معامل الارتباط (r= 0.89).

النتائج: اظهرت نتائج الدراسة إن معظم افراد عينة البحث من الذكور، وغالبية أعضاء الدراسة تتراوح أعمارهم بين (30-39) سنة ، وأن (75%) منهم تحت مستوى الأعدادية، وأن (48%) منهم أجابوا بعدم كفاية الدخل الشهري لهم و لديهم تاريخ طبي أقل من خمسة سنوات في الإنفاذ الدموي، وغالبيتهم خاضعين لعملية الإنفاذ الدموي لثلاث مرات في الأسبوع ، في حين أن (75,5%) من العينة يستغرق 4 ساعات في عملية الإنفاذ الدموي في كل جلسة.

الاستنتاجات-: أظهرت الدراسة أن أغلبية المرضى كانوا ملتزمين في العلاج بالنفاذ الدموي و بالعقاقير الطبية وفي نفس الوقت غير ملتزمين بإجراء الفحوصات الخاصة للمتابعة.

التوصيات : أوصت الدراسة بالحاجة الى تحسين البرنامج الوطني الخاص بمرضى الإنفاذ الدموي ، وكذلك إلى أهمية أجراء بحوث أخرى في هذا المجال .

Abstract:

Objectives: The Study aims to identify the hemodialysis patients' compliance about the treatment and follow up in Baghdad Teaching Hospitals.

Methodology : A descriptive study was conducted infive teaching hospitals in Baghdad City from 15/5/2012 to 15 /8/2013 to achieve the objectives of the study, A non probability (purposive) sample of 200 cases which consists of patient with ESRD who are admitted to the dialysis centers at AL-Kadhmia, AL-Yarmok, AL-Kindey, AL-Karama, and Baghdad Teaching hospitals were selected, with their ages between 18 to less than 70 years old. And under hemodialysis treatment not less than 6 mouths. A questioner's format was used for data collection. The validity of questioner was estimated through a penal of experts related to the field of study, and its reliability was estimated through test- retest method which was estimated as average (r=0.89).

Data was gathered by interview technique using the questionnaires format and data was analyzed by application of descriptive and inferential statistical By using SPSS version

Results: The results of the study indicated that (54.0%) of sample were males and most of them were range between (30-39) years old, (54%0) of them were single , while (28%) of them were married. Also the study indicated that (39%) of sample were housewife, (54 %) of them were under secondary school graduation, and (48%) of them the monthly income is not sufficient. Moreover the study indicated that (58%) of them had medical history less than five years in hemodialysis, and half of them done hemodialysis for three times per week, (75.5%) of them for four hours in each session.

Conclusions: The results of the study indicated that most of them compliance to the treatment and not compliance to the follow up.

Recommendation: The study recommends conducting and improving national programs of hemodialysis in Iraq, and the necessity of conducting other researchers in the field of Hemodialysis patients.

Keyword: Assessment, Hemodialysis patient, Compliance, Treatment

INTRODUCTION:

End-Stage Renal Disease (ESRD), known as stage 5 chronic kidney disease, is incurable and afflicts individuals of all ages, ethnic groups and socioeconomic (1).

ESRD is defined as total loss of kidney function, it is common problem worldwide caused by multitude of kidney disease either diabetes or hypertension, it is diagnosed by several laboratory and imaging diagnostic procedures [2] [3]. Dialysis is used to treat people with kidney failure, as acute or chronic renal failure.

Dialysis can be used temporarily if the patient has acute renal failure or as a permanent life sustaining treatment if the patient has chronic renal failure that it must continue for the rest of patient's life unless a successful kidney transplantations performed [4]. Hemodailysis is one of the treatment options in renal replacement therapy [5]. Patients undergoing hemodialysis who require medications are monitored closely to ensure that blood and tissue levels of these medications are maintained without toxic accumulation. Thrice-weekly haemodialysis (HD), for four to five hours, is the most common strategy [6], [7] and 66 % of the Swedish incident patients (125 per million inhabitants) started with HD as their first renal replacement therapy in 2008 [8] .

The patient must know when to take and when not to take the medications [9].

Most medications that are taken daily can be held until after the dialysis treatment [2].

Upon the cessation of renal function, fluid, metabolic toxins, and electrolytes accumulate in blood and body tissue and for the preservation of life these substances must be removed by alternative means. The treatment of ESRD concentrates therefore on replacing the lost renal functions and consists of several components: a dietary prescription composed of fluid, mineral and food stuff restrictions [4], [5]; an extensive use of medications and dialysis treatment [8] [10].

Kidney function tests are a collective term for a variety of individual tests and procedures that can be done to evaluate how well the kidneys are functioning National Kidney Foundation [9].

People on dialysis should have regular diagnostic to check for heart and blood vessel disease [10] [11].

METHODOLOGY:

A descriptive study was conducted in five teaching hospitals in Baghdad City AL-Kadhmia, AL-Yarmok, AL-Kindey, AL-Karama, and Baghdad Teaching hospitals from 1/5/2012 to 20 /7/2013 to the hemodialysis patient's compliance to the foods and fluids in Baghdad Teaching Hospitals. Non probability (purposive) sample of (200) hemodialysis patients (male and female) were selected, with their ages between 18 to less than 70 years old, and they are treated by hemodialysis not less than 6 mouths. A questioners format was used for data collection which consisted of two parts; the first part was concern with demographic data sheet which include 5 items age, gender, marital status, educational level, occupation and 3 itmes concerned with basis Information, while the second part was dealing with hemodialysis compliance, which Included 4 items were concerned with compliance to treatment in the Hemodialysis, and 7 items were concerned with compliance to medication, and 7 items were concerned with compliance to follow-up in the Hemodialysis. The questionnaire items were rated and scored on a scale of close-ended responses Yes=1 No=0, where the lowest score represents a deficit of compliance while the highest score represents having compliance to hemodialysis. To asses patients' compliance the researcher construct questionnaire format which consist of (26) items. The researcher interviewed all patients, and each one was given a time period between (15 – 20) minutes to answer the questions. Data were analyzed through the application of descriptive data analysis (percentage and frequency) and inferential statistical approaches which include mean of score, relative sufficiency.

RESULTS OF THE STUDY:

Table (1): Observed Frequencies and Percentage of Socio-Demographical Characteristics parameters

Socio-Demographics		Groups	Freq.	Percent	Cum. Percent
1.	Gender	Male	108	54	54
		Female	92	46	100
2.	Age Groups	< 20	15	7.5	7.5
		20 -	35	17.5	25
		30 -	67	33.5	58.5
		40 -	37	18.5	77
		50 -	27	13.5	90.5
		60 - 70	19	9.5	100
			37.59 ∓ 12.66 (yrs.)		
3.	Marital Status	Single	108	54	54
		Married	56	28	82
		Divorced	15	7.5	89.5
		Widowed	21	10.5	100
4.	Occupation	Student	8	4	4
		Employee	23	11.5	15.5
		Self-employee	26	13	28.5
		Retired	28	14	42.5
		Unemployed	65	32.5	75
		Housewife	50	25	100
5.	Educational level	Illiterate	6	3	3
		Reads and writes	20	10	13
		Primary	37	18.5	31.5
		Intermediate	45	22.5	54
		Secondary	42	21	75
		High institutes	31	15.5	90.5
		College graduate	19	9.5	100
		Barley sufficient	87	43.5	52
		Insufficient	96	48	100

***S.D.=** Standard Deviation

This table shows that (54%) of sample were males, and about (33.5%) were between (30-39) years old, (54%0 of them were single , while (7.5%) of them were Divorced. Also the study indicated that (32.5%) of sample were unemployed, (54 %) of them were under secondary school graduation.

Table (2): Observed Frequencies and Percents of related Basis Information parameters

Basis Information		Groups	Freq.	Percent	Cum. Percent
1.	The Medical History of Hemodialysis	< 5 yrs.	95	47.5	47.5
		5 - 9 yrs.	58	29	76.5
		10 - 15 yrs.	29	14.5	91
		> 15 yrs.	18	9	100
		$\bar{x} \mp S.D$	4.44 ∓ 4.27 (yrs.)		
2.	Number of Hemodialysis per week	Once time	21	10.5	10.5
		Twice times	77	38.5	49
		Three times	102	51	100
3.	Hours number in each session	less than 3 hours	10	5	5
		3 hours	39	19.5	24.5
		4 hours	151	75.5	100

***S.D.=** Standard Deviation

This table indicated that (47.5%) of sample have a medical history less than five years in hemodialysis, and half of them done hemodialysis for three times per week, (75.5%) of them for four hours in each dialysis.

Table (3) : Summary Statistics and the Observed Frequencies for the Initial Responding of Questionnaire's items for the study samples the Assessment of Hemodialysis Patient's Compliance in Baghdad Teaching Hospitals

The Studied Part's items for Assessment of Hemodialysis Patient's Compliance in Baghdad Teaching Hospitals		Resp.	Freq.	Percent	M.S.	S.D.	R.S.	Ass.
Section 1 : The patient's compliance to treatment in the Hemodialysis								
1.	Adhere to the dates of your table for a dialysis session.	No	25	12.5	0.88	0.41	88.0	*Pass
		Yes	175	87.5				
2.	Necessary comply with a number of hours of dialysis.	No	15	7.5	0.92	0.26	92.0	Pass
		Yes	185	92.5				
3.	Already left the date of the dialysis session.	No	172	86	0.14	0.24	14.0	Pass
		Yes	28	14				
4.	The number of hours adhere to specific dialysis session for you	No	32	16	0.8	0.31	84.0	Pass
		Yes	168	84				
section II : Compliance of medications								
1.	Dealing with treatment at specified times	No	93	46.5	0.54	0.50	54.0	Pass
		Yes	107	53.5				
2.	Can you take medications with yourself	No	109	54.5	0.46	0.50	46.0	*Failure
		Yes	91	45.5				
3.	Dealing with the exact same treatment dose for you by your doctor	No	20	10	0.90	0.30	90.0	Pass
		Yes	180	90				
4.	You take the treatment (EPO, iron, and vitamins) after a dialysis session	No	3	1.5	0.98	0.12	98.0	Pass
		Yes	197	98.5				
The Studied Part's items for Assessment of Hemodialysis Patient's Compliance in Baghdad Teaching Hospitals		Resp.	Freq.	Percent	M.S.	S.D.	R.S.	Ass.
5.	Avoid taking drug of blood pressure before a dialysis session	No	22	11	0.89	0.30	89.0	Pass
		Yes	178	89				
6.	Know the work and side effects of treatment, which take	No	104	52	0.48	0.50	48.0	Failure
		Yes	96	48				
7.	Do you visit a doctor when side effects appear after taking medications	No	52	26	0.74	0.44	74.0	pass
		Yes	148	74				

* pass= compliance * Failure= non- compliance

This table (3) indicated that with respect to items of part one named "Compliance to treatment in the Hemodialysis "we can see that (4) items were pass assessment. With respect to the relative sufficiency (RS) which indicated (87.5%) for all items of this part. while part two, named "Compliance to medication" we can see that (2) items from seven were failure assessment, while (5) items was pass the assessment. With respect to the relative sufficiency (RS) which indicated (71.5.5%) for all items of this part.

Table (4) : Observed Frequencies for the Initial Responding of Questionnaire's items for studying the Assessment of Hemodialysis Patient's Compliance in Baghdad Teaching Hospitals

section III : Patient follow-up		Resp.	Freq.	Percent	M.S.	S.D.	R.S.	Ass.
1.	Adhere to the date of laboratory tests required of you	No	0	0	1.00	0.00	100	Pass
		Yes	200	100				
2.	Adhere to working laboratory tests that you need to know the focus before the date of examination monthly your Hemodialysis center	No	197	98.5	0.02	0.12	15.0	Failure
		Yes	3	1.5				
3.	Conducts laboratory tests following routine before the date (month).							
3.a	Blood Sugar	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.b	S. CI	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.c	Blood Urea	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.d	S. Na	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.e	S. Creatinine	No	200.0	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.f	S. K.	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.g	Total Protein	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.h	S. Ca	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3. i	S. Cholesterol	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.j	S. Phosphorus	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.k	Alkaline phosphorus	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
3.l	Hb	No	200	100	0.00	0.00	0.00	Failure
		Yes	0	0				
4.	Visiting an eye doctor for eye examinations	No	174	87	0.13	0.34	13.0	Failure
		Yes	26	13				
5.	Visiting the dentist	No	158	79	0.21	0.41	21.0	Failure
		Yes	42	21				
6.	Working chest X-ray	No	199	99.5	0.01	0.07	0.50	Failure
		Yes	1	0.5				
7.	E.C.G. work for the heart	No	199	99.5	0.01	0.07	0.50	Failure
		Yes	1	0.5				

This table indicated that with respect to items named "Compliance to follow-up in the Hemodialysis ", we can see that (7) items were Failure assessment. With respect to the relative sufficiency (RS) which indicated (7.70%) for all items of this part.

Table (5): Summary Statistics for Grand Mean of Score's Responding of Questionnaire's Parts for studying the Assessment of Hemodialysis Patient's Compliance in Baghdad Teaching Hospitals

Assessment of Hemodialysis Patient's Compliance in Baghdad Teaching Hospitals	*No.	*G.M.S.	*S.D.	*R.S.	*Ass.
Part I: Compliance to the treatment	**200**	**0.875**	**0.120**	**87.5**	**V.Good**
Part II : Compliance to the medication	**200**	**0.715**	**0.111**	**71.5**	**Good**
Part: Compliance to the follow up	**200**	**0.077**	**0.049**	**7.70**	**Failure**

***No.=** Number ***G.M.S.= Grand Mean of Score's *S.D.=** Standard Deviation ***R.S.=** Relative sufficiency ***Ass. Assessment**

The results shows that part (Compliance to the treatment) full inside "V.Good" assessment, then followed with part two (Compliance to the medication)
which full inside " Good " assessment , and part three (Compliance to the follow up full inside " Failure " assessment, with respect to the relative sufficiency (RS), which was (87.5),(71.5) ,(7.70) respectively.

DISCUSSION:

1. Discussion of demographic characteristics of study sample to the hemodialysis patients

Throughout the course of the present study, and as it has been shown in table (1) that the highest percentage (54%) of patients were male. This study is similar to the (Basheer,2011) [11] study in Palestine, were consisted of 58.70% males, and41.30% females. Regarding their ages, about half of them were in middle age between (30-39) years old. This result is with agree with (Levey et al. 2005) [1], who mentioned that chronic kidney disease is incurable and afflicts individuals of all ages, ethnic groups and socioeconomic strata. Regarding the marital status, (54%0 of them were single, while (7.5) of them were Divorced.

Concerning occupation, the study indicated that (57.5%) of sample were unemployed and housewife (don't worked). Concerning the level of education, (54 %) of them were full under secondary school graduate,

2. Discussion some information about hemodialysis patients and dialysis sessions.

The results indicate in table (2) that, (47.5%) of sample had medical history less than five years in hemodialysis, and half of them done hemodialysis for three times per week, (75.5%) of them for four hours in each session.

This result is agree with [6], [7] who they were mentioned in their studies that thrice-weekly haemodialysis (HD), for four to five hours, is the most common strategy.

3. Discussion of assessment of the patient's compliance to treatment in the Hemodialysis.

With return to table (3), we can observe that "The patient's compliance to treatment in the Hemodialysis "in light of subject's responses items, shows "Pass" assessment, and they are accounted pass assessment (100%). For more details this table indicated that, analysis was conducted 4 items of the questionnaire that evaluated the compliance, items (1.2.4) positive question, while item (3) negative.(88%) of sample were Adhere to the dates of your table for a dialysis session, (92%) adhere to the necessary comply with a number of hours of dialysis, (86% were already do not left the date of the dialysis session, while (84%) adhere to the number of hours to specific dialysis session for the patient.

Table (3) shows the total relative sufficiency (RS), which were (87.5%), and that means the assessment of the patient's compliance to treatment in the Hemodialysis was v good.

This finding was supported by (Kim, Y.,et.al.,2010) [12] who was stated that crucial questions in efforts to control chronic kidney disease (CKD)was; Do patients follow the instructions for attendance to hemodialysis session at specific time and day ; didn't skipping or shortening of dialysis sessions per hour.

Leggat .,et.al., (1998) [13] reported that skipping one or more HD sessions or shortening sessions more than three times per month (more than 10 minutes each session) was associated with Non-compliance and an increase in mortality of 25% and 20%, respectively.

Maintenance HD is the most common renal replacement therapy (RRT) for the many individuals who understanding importance of attendance hemodialysis session in schedule time was associated with compliance and decrease in mortality from ESRD (United States Renal Data System [USRDS], 2009) [14] .

Anees M., et.al.,(2002) [15] Who reported that attendance at the prescribed dialysis sessions implies both regular attendance (no skipping of sessions) and full completion of the sessions (no shortening of a session). Due to enhance the patient survival and well being with his\her family.

(Denhaerynck et al., 2007 and Wystrychowski G & Levin NW ,2007) [16] [17] who said that to measure adherence for patients with end stage Renal disease ESRD in hemodialysis treatment requiring from the patients attend regularly travel to a dialysis center and ; didn't skipping or shortening of dialysis sessions per hour unless complication occur .

Moreover, this result is not agreement with the finding of a similar study (Nadeem .M, 2011) [18] was conducted at Combined Military Hospital; Abbottabad showed that the majority of the sample (66.66%) was Non –compliance to hemodialysis treatment.

4. Discussion of assessment of the patient's compliance to medication.

With respect to items of this section " Compliance of Medications ", we can see that all items of the subject's responses had passes assessment, except item (5) which was failure, with respect to the relative sufficiency (RS) which was (71.6) for all items of this part that means the assessment of the patient's compliance to medication in the Hemodialysis was (good) table (4),(5).

Many factors influence adherence, in items (1, 3) concerned with (regular taking medications according to dosage and time). This finding was supported by (Quinan, P, 2007; Anees M., et.al., 2002) [19] [15] who stated that the willingness to take antihypertensive drugs and other medicines is to evidence the control and coping for individuals with end stage renal disease on hemodialysis.

In regard to item (2) indicated (Failure) which is concerned with taking medications by themselves. This result is agreed with the results obtained from the stuffy done by (Rastogi A, Linden A& Nissenson AR .,2008) [20] who reported that is a strong relationship between family support and therapy compliance. Relative to item (4) indicated v good which is concerned with patients' take the treatment (EPO, iron, and vitamins) after a dialysis. This finding is supported by (Hecking, E.,. et al., 2004) [21] who reports that the majority of compliance the patients to take erythropoietin as need after disconnection due to the role of nurse in hemodialysis center (standard guide line of nursing care for hemodialysis patients pre-during and post dialysis. Relative to item (5) who is concerned with avoid taking drug of blood pressure before a dialysis session the result shows v good this.

Anees M., et.al.,(2002) [15] Who reports that the patients to prevent complication during and post dialysis require from the patients skipping or don't take antihypertensive drug in day of dialysis session.

In regard to the item (6) Know the work and side effects of treatment, which indicated a failure result. These results agree with (Barnett et al., 2008) [22] who maintained that related to increased levels of patient's knowledge for illness and treatment due to increase adherence rates. Conversely, decreased knowledge of illness and treatment has been associated with poorer health outcomes ((Quinan, P, 2007) [19].

In regard to the item (7) there is a good relationship which is concerned to visit a physician when side effects appear. These results are similar to the results obtained from the study done by the (Bull, et al., 2002) [23] who reported that the frequent contacts with a physician may improve the continuation of therapy.

As a result of the interdependence of the family in society. Iraqi and Arab society the majority of patients depends on to provide of its requirements and needs Dam on family members or individuals live with them, due to increase the percentage of compliance to be a high (researcher opinion).

5.Discussion of assessment of the patient's compliance to Patient follow-up.

Regarding to the items of this section "Patient Follow-Up" we can see that from (7) items, (6) items were failure and only (1) items were (pass) and the total relative sufficiency (RS), which were (7.70%), and that means the assessment of Patient follow-up was failure (poor). Table (4-2-2),(4-3).

In regard to item (1) indicated (Excellent) which is concerned with Adhere to the date of laboratory tests required of you.

(Denhaerynck et al., 2007 and Wystrychowski G & Levin NW ,2007) [16] [17] Who proved that all dialysis centers worldwide are required to take monthly laboratory tests. This is to ensure proper monitoring of patient's blood and chemistry levels.

Through this study, the researcher found that the high rate of commitment to 100% due to that all dialysis centers in Iraq, operating under the global system conforming to previous study, this means timeliness of laboratory tests mandatory, not optional.

Relative to item (2, 3, 4, 5, 6, and 7) indicated (Failure) which is concerned with patients', to working laboratory tests before the date of examination monthly, visiting an eye doctor and the dentist finally working chest X-ray.

The proportion of other tests shall be according to recommendations of doctor for each patient different from one to other depending on the type of complications that appear or occur for the patients. During interviewing and data collecting information related to the study found many patients (who say that I have anemia and frequent withdraw of blood affect reduce the proportion of hemoglobin and cannot compensated easily) Researcher conclusion during the study.

Study done by (Hecking, E.,. et al., 2004) [21] concerning the effect of duration of the dialysis in hemodialysis patients on dental and periodontal findings found a large number of patients can't follow up with dentist because the patient who has a schedule time in hemodialysis and every dialysis session the patient where takes 0.5-2 cc of anticoagulant. If the patient wants to go to the dentist he must of not taking heparin from 7-10 days to be safely bleeding gums and this means the patient skipping as 2-3 dialysis session and this leads to increased level of blood urea and interdialytic weight gain (IDWG) increase of fluid overload for patient.

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